

## ABSTRACT

A method of updating a cache in an integrated circuit comprising: the cache; a processor connected to the cache via a cache bus; a memory interface connected to the cache via a first bus and to the processor via a second bus,  
5 the first bus being wider than the second bus or the cache bus; and memory connected to the memory interface via a memory bus; the method comprising the steps of: (a) following a cache miss, using the processor to issue a request for first data via a first address, the first data being that associated with the cache miss; (b) in response to the request, using the memory interface to fetch the first data from the memory, and sending the first data to the processor; (c) sending, from the memory interface and via the first bus, the first data and additional data, the  
10 additional data being that stored in the memory adjacent the first data; (d) updating the cache with the first data and the additional data via the first bus; and (e) updating flags in the cache associated with the first data and the additional data, such that the updated first data and additional data in the cache is valid.